

# Simrad ES70-7CD

## Split beam echo sounder transducer

### Introduction

The Simrad ES70-7CD is a split-beam composite transducer with a large bandwidth. This provides a fine range resolution, which is important for single fish detection and target strength measurement. The transducer has four quadrants. The ES70-7CD has been design to withstand a large water pressure, and is therefore well suited for underwater vehicles and other submerged platforms.

### Order numbers

Transducer: 335039

Mounting ring: 350092\*

Clamping ring: ES7-203679\*

(\*) These items must be ordered separately.



### Technical specifications

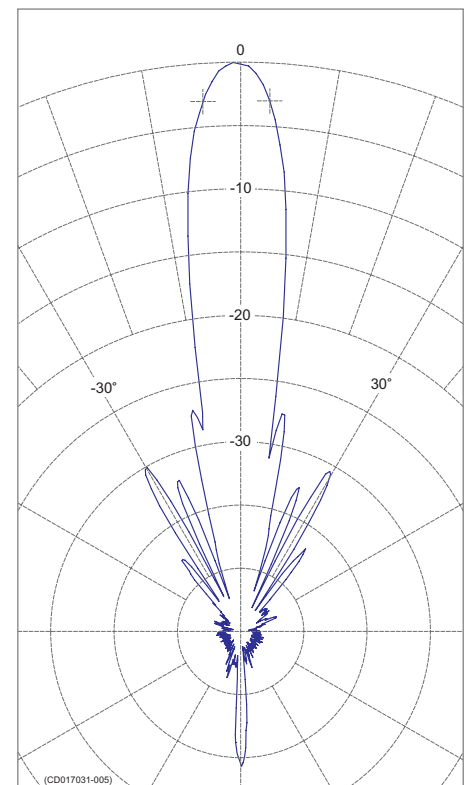
The following specifications are valid for a 70 kHz pulse when all four quadrants are wired in parallel.

Note that all technical specifications can be altered without prior notifications.

- Resonant frequency: 70 kHz
- Circular beamwidth: 7 deg
- Directivity:
  - D: 650
  - DI = 10 log D: 28 dB
- Equivalent two-way beam angle:
  - $\Psi$ : 0.009
  - 10 log  $\Psi$ : -20.5 dB
- Side lobes: Less than -23 dB
- Back radiation: Less than -30 dB
- Nominal impedance: 19 ohm  
Each quadrant: 75 ohm
- Transmitting response:  
185 dB re 1 $\mu$ Pa per V
- Receiving sensitivity, open circuit: -190 dB re 1V per  $\mu$ Pa

- Electro-acoustic efficiency: 0.7
- Max. pulse power input: 1000 W
- Max. continuous power: 10 W<sup>(1)</sup>
- Max. transducer depth: 1500 m
- Cable length: 1.5 m
- Connector: Burton (5501-2008)
- Approximate weights:
  - In air: 16 kg
  - In water: 8.7 kg
- Storage temperature: -20° to 55°C

(1) The ping rate (pings per second) multiplied with the pulse duration (in seconds), and then multiplied with the power output, must be less than 10 W.



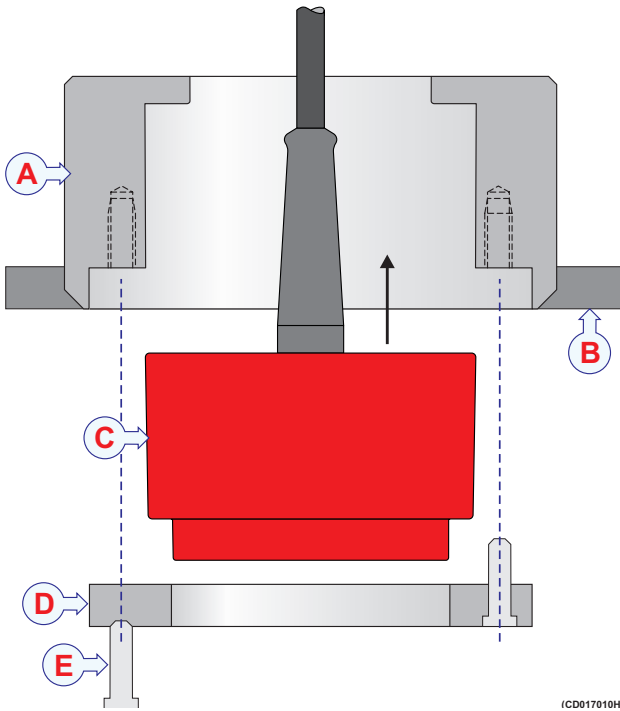
Beam pattern

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**Installation principle**

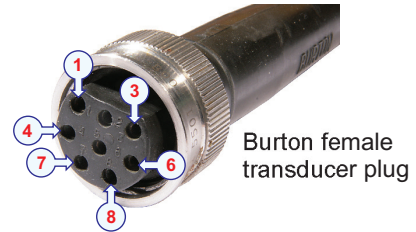
- (A) Mounting ring
- (B) Towed body's hull plating
- (C) Transducer
- (D) Clamping ring
- (E) Bolts



(CD017010H)

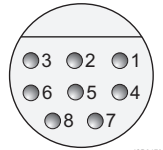
**Burton underwater connector**

Pin configuration



|       |   |    |                |
|-------|---|----|----------------|
| Pin 1 | + | Q1 | Aft starboard  |
| Pin 4 | - |    |                |
| Pin 2 | + | Q2 | Aft port       |
| Pin 5 | - |    |                |
| Pin 3 | + | Q3 | Fore port      |
| Pin 6 | - |    |                |
| Pin 7 | + | Q4 | Fore starboard |
| Pin 8 | - |    |                |

Male receptor

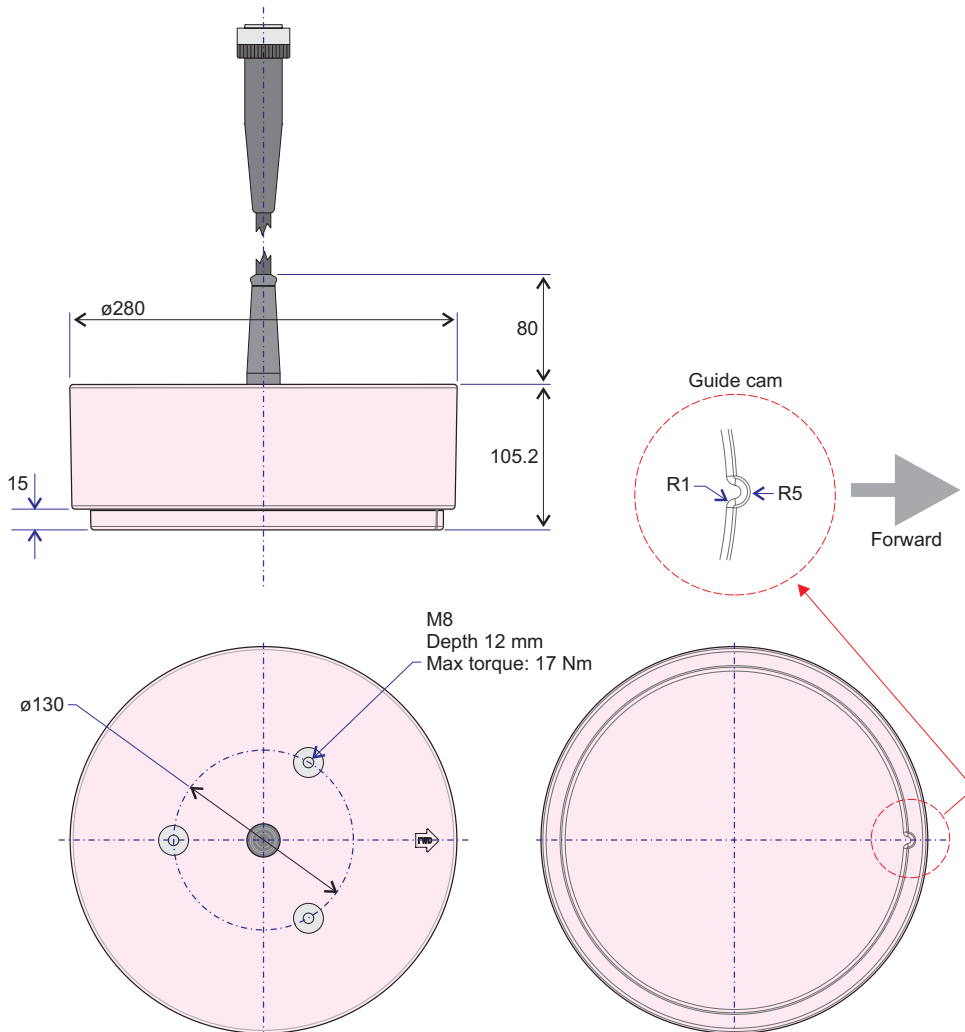


(CD017014D)

**Outline dimensions**

All dimensions in mm

Observe that the body of the transducer is higher than the body of the Simrad ES70-7C.



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**Simrad**

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